



Space and Naval Warfare Systems Center Atlantic

Engineering & Operational Support for Aviation & Polar Programs

Charleston Defense Contractors Association
**40th Small Business Industry
Outreach Initiative**
23 June 2016

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SSC Atlantic
Polar Programs IPT Lead

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Purpose

- ▼ This briefing will provide amplifying information to support the Performance Work Statement for Solicitation
 - N65236-16-R-0006 for SSC Atlantic Polar Programs

Polar Programs IPT Background

- ▼ SPAWAR Systems Center began supporting the United States Antarctic Program (USAP) in 1985
- ▼ Naval Support Forces Antarctica (NSFA) disestablished in 1997 and SPAWARSCEN Atlantic assumed Air Traffic, Meteorology, and Ground Electronics support in addition to its engineering support already provided
- ▼ The SSC Atlantic, Polar Programs IPT continues this support today

Services Provided by Polar Programs IPT

- ▼ Systems Engineering
- ▼ Airport Navigation and Information Systems
- ▼ Air Traffic Control
- ▼ Meteorology
- ▼ Life Cycle Support
- ▼ Sustaining Engineering
- ▼ Information Security
- ▼ Information Technology
- ▼ Logistics Support
- ▼ Program Management Support

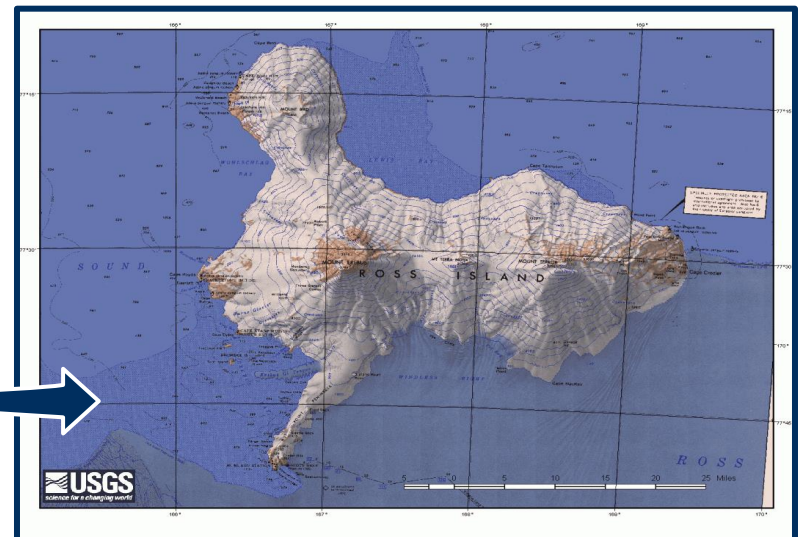
RFP N65236-16-R-0006 Scope

- ▼ Air Traffic Control
- ▼ Meteorology
- ▼ Systems Maintenance
- ▼ Logistics Services
- ▼ PM/SME Support



Basics of the United States Antarctic Program (USAP)

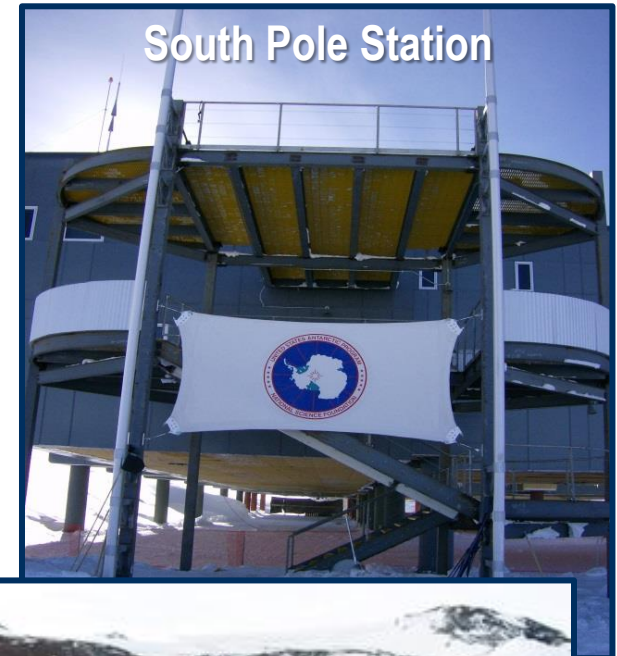
- ▼ Coldest, windiest, harshest continent
- ▼ Little precipitation (roughly 2 inches per year)
- ▼ Average elevation is 6,500 feet
- ▼ 98% of land mass covered by ice
- ▼ Surrounded by the Southern Ocean



USAP Facilities

▼ 3 Main Research Stations

- McMurdo Station
- Amundsen-Scott South Pole Station
- Palmer Station



USAP Facilities (cont'd)

▼ McMurdo Station

- Main logistics hub for USAP with highest population
- Located on the southern tip of Ross Island
- 850 miles north of the South Pole
- Mean annual temperature is 0°F
- Average wind speed is 12 knots, but have exceeded 100 knots

USAP Facilities (cont'd)

▼ McMurdo Station (cont'd)

- Operational Facilities
- Science Laboratories
- Deep-Field Support
- Lodging facilities
- Dining facilities
- Library
- Community centers
- Chapel
- Recreational events

Beginning of Season



End of Season



USAP Facilities (cont'd)

- ▼ **McMurdo Bldg 165**
 - Mac Center
 - Mac Weather
- ▼ **McMurdo Bldg 159**
 - Comm/Met Work Center
 - Maintenance Offices
 - Parts/Test Equipment storage
- ▼ **Marble Point**
- ▼ **Black Island**



USAP Facilities (cont'd)

- ▼ Williams Field
- ▼ Phoenix Field *
- ▼ Pegasus Field

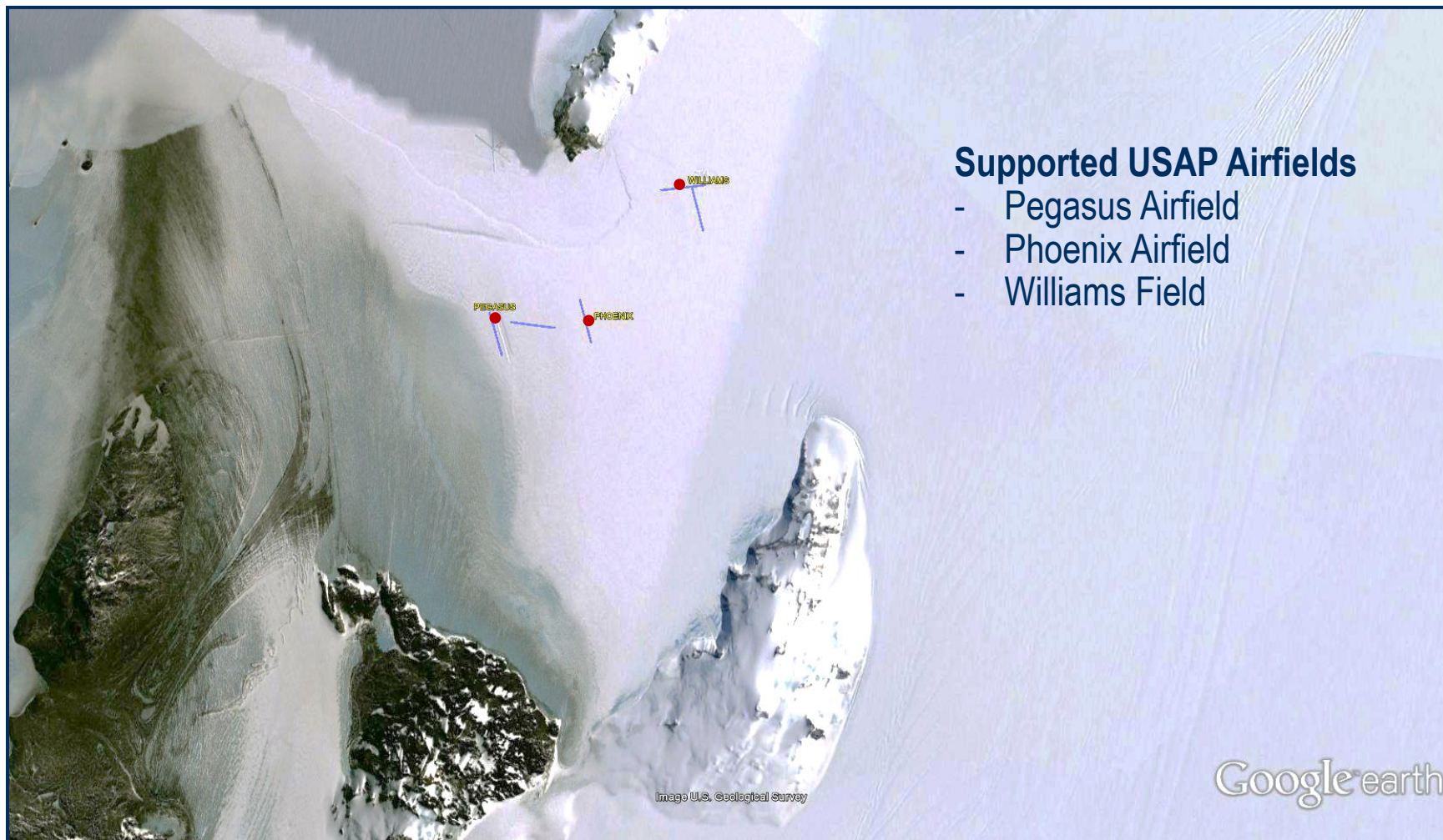
**Phoenix Field is new and has not been activated yet*

▼ Airlift Support Provides

- 109th AW provides LC-130
- 62nd AW provides C-17
- Independent contractors provide helicopter and light fixed wing aircraft
- International partners provide some intercontinental airlift support



USAP Facilities (cont'd)



USAP Facilities (cont'd)

▼ Pegasus/Phoenix Airfield

- Uncontrolled airfield
- Ice Runway
- ~Mid-Aug through early Dec
- ~Mid-Jan through end-of-season (EOS)

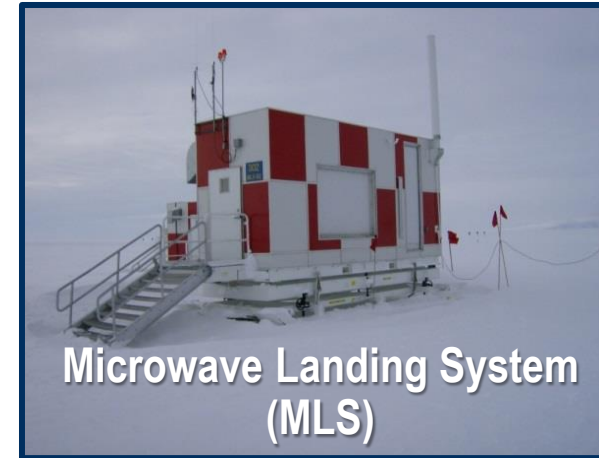
▼ Pegasus/Phoenix Field Supported Equipment/Systems

- MLS
- TACAN
- PAPI
- REILS
- Weather Systems

USAP Facilities (cont'd)

▼ Williams Field

- Controlled airfield
- Main Skiway and Crosswind Skiway
- ~1 Nov through EOS



▼ Williams Field Supported equipment/systems

- ATCT
- MLS
- TACAN
- PAPI
- REILS
- Weather Systems



USAP Facilities

▼ Remote Locations

- Ross Ice Shelf
 - Automated Weather Stations

**Automated Weather
Station**



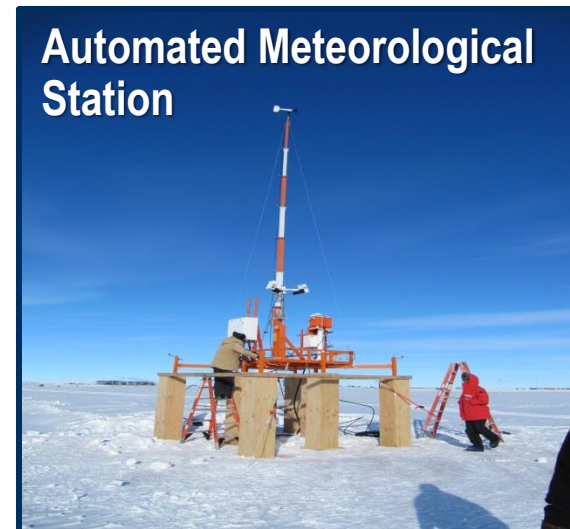
**Automated
Weather
Stations
Ross Ice Shelf**



USAP Facilities

▼ Amundsen-Scott South Pole Station

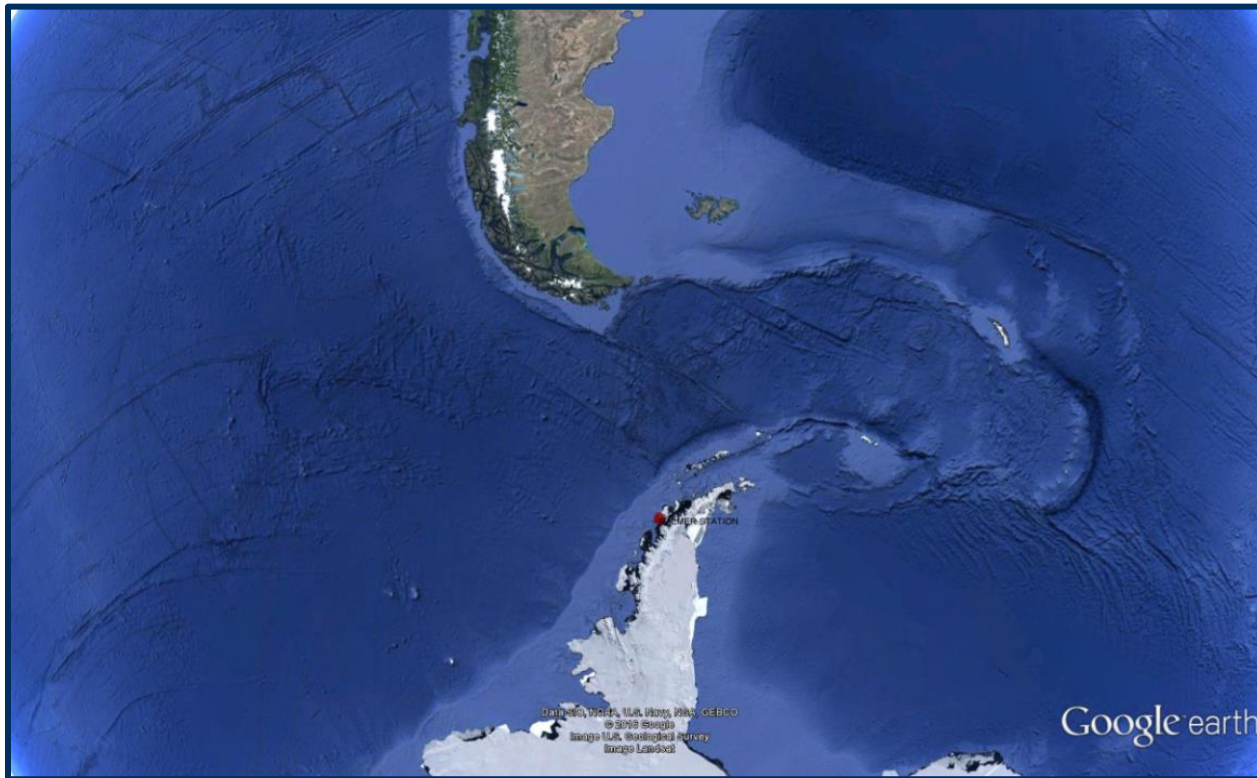
- Temperatures average -60°F year-round
- Average austral winter temperature lows are -80°F
- Periodic visits are scheduled for maintenance of ATC communications and weather equipment
- Sustaining engineering



USAP Facilities

▼ Palmer Station

- Located on Anvers Island in the Antarctic Peninsula
- Provides Weather support for station and area ships



PWS Technical Requirements

▼ Air Traffic Control

- Mac Center
- Helo Flight Following
- Air Traffic Control Tower
- Remote Operating Facility

▼ Meteorology

- Mac Weather
- McMurdo Airfields
- Remote Operating Facility



PWS Technical Requirements

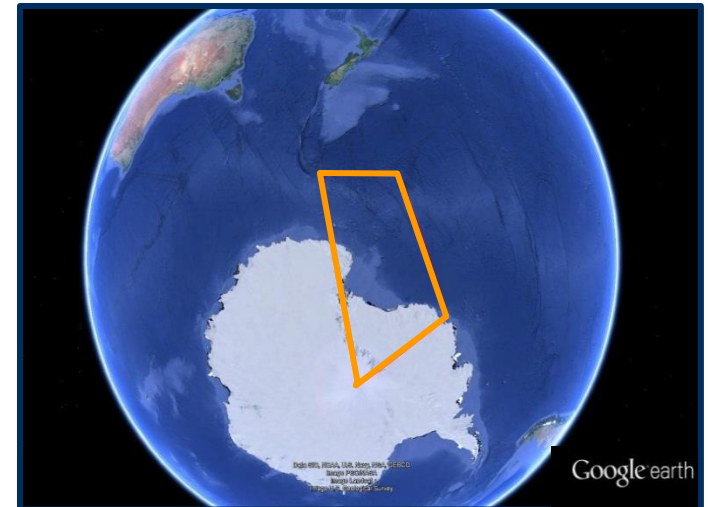
- ▼ Systems Maintenance
 - Ground Electronics Maintenance
 - Navigational Aids (NAVAIDS)
 - Communications Systems
 - Meteorological Systems
- ▼ Information Systems
- ▼ Sustaining Engineering
- ▼ Logistics Services



PWS Technical Requirements

▼ McMurdo Center (MAC Center)

- Non-radar operations
- Provides en route control in the McMurdo Sector of the Auckland Flight Information Region (FIR)
- Coordinates with adjacent FIRs
- Provides flight following to all USAP aircraft operating in Antarctica
- Operational 24x7 during austral summer
- Flight Radio Operations (FRO)



PWS Technical Requirements

▼ Helicopter Flight Following

- Provides flight following services to rotary wing aircraft operating in the McMurdo vicinity

▼ Air Traffic Control Tower

- Located on the active airfield
- Staffed during flight operations
- Local and Approach control
- Weather Observing/LAWRS

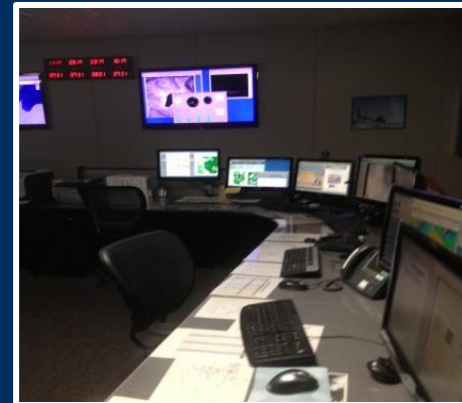
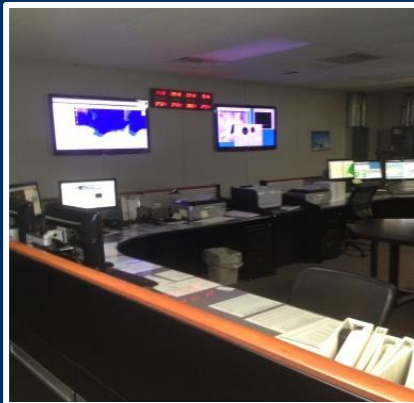


PWS Technical Requirements

▼ ATC Remote Operating Facility (ROF) – Charleston

- Operates any time there are flight operations supporting the USAP
- Staffed 24x7 during austral summer
- Also staffed during special flight operations during austral winter
- Object is to support McMurdo's mission without deploying additional people

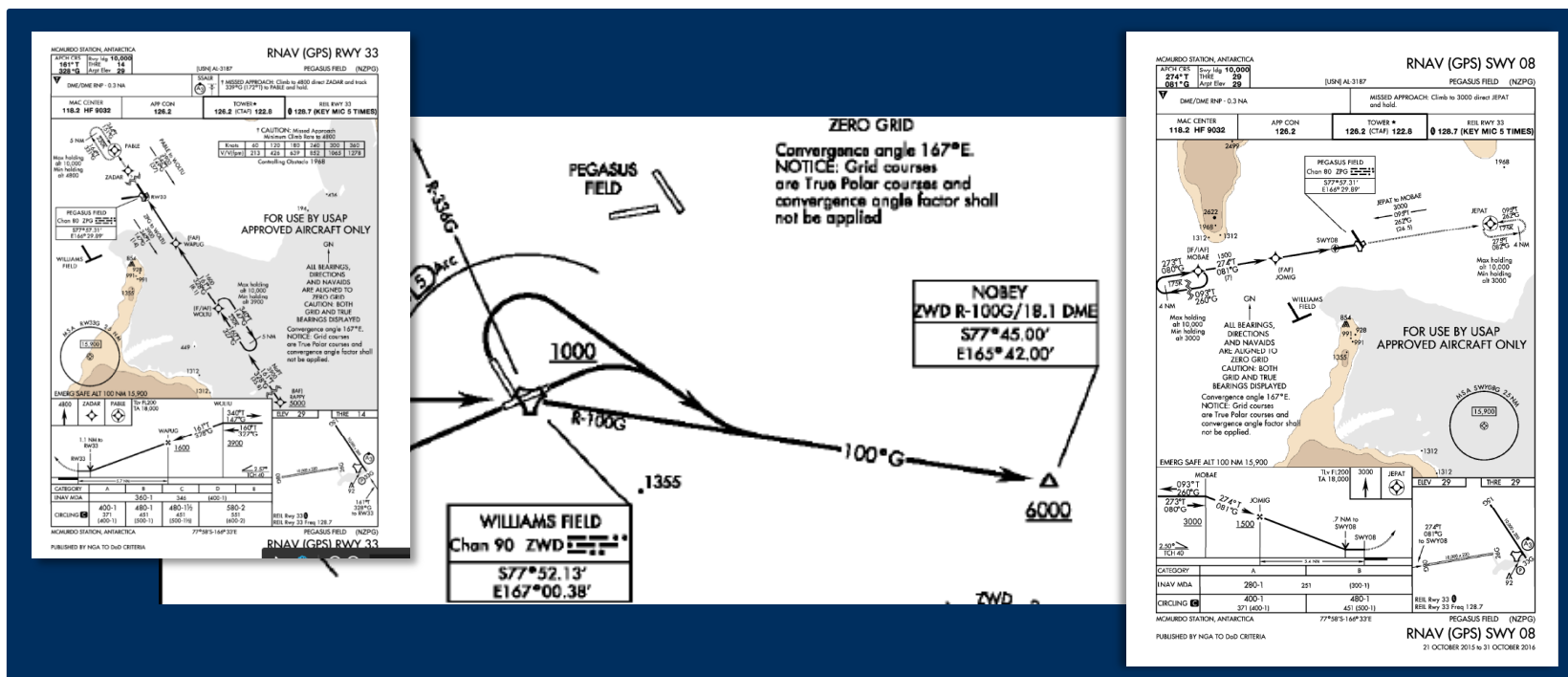
Remote Operating Facility



PWS Technical Requirements

▼ Terminal Instrument Procedures (TERPS)

- Instrument approach/departure procedures
- Precision approach/departure procedures
- GPS approach procedures



PWS Technical Requirements

▼ McMurdo Weather (Mac Weather)

- Staffed during flight operations
- Forecasting Support
 - TAFs and Misc. forecasting
- Observers
 - METAR and Synoptic Observations
 - Upper Air Observations

▼ McMurdo Airfields (Observing)

- Staffed with observers starting 6 hours prior to flight operations*

**Can be 24x7 during the season*

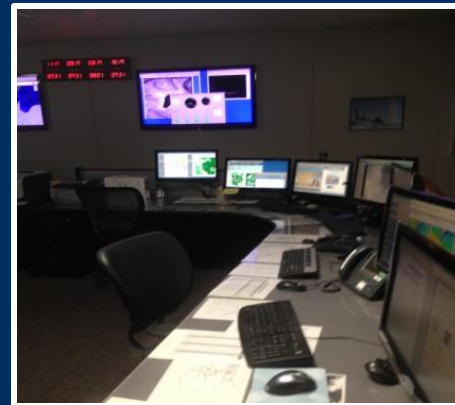
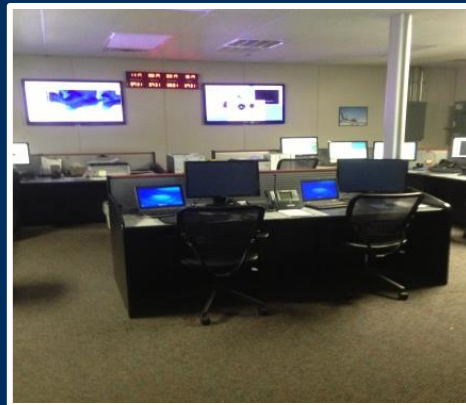
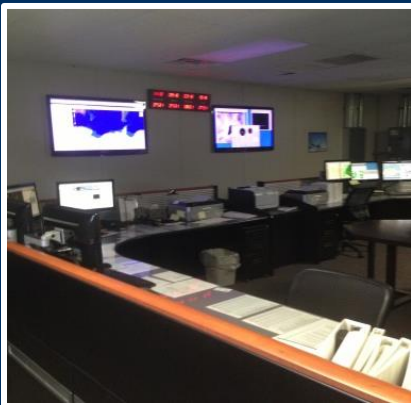


Temperature	-5 F (-21 C)
Windchill	-27 F (-33 C)
Dew Point	-18 F (-28 C)
Relative Humidity	53%
Pressure (altimeter)	28.9 in. Hg (978 hPa)
ob	NZCM 191759Z 34016G21KT 9999 FEW020 BKN060 BKN130 M21/M28 A2890 RMK SLP794

PWS Technical Requirements

- ▼ MET Remote Operating Facility (ROF) – Charleston
 - Operates any time there are flight operations supporting the USAP
 - Staffed 24x7 during austral summer
 - Also staffed during special flight operations during austral winter
 - Staffed to provide routine WEAX support for research vessels

Remote Operating Facility Charleston



PWS Technical Requirements

- ▼ Systems and Maintenance
- ▼ Provides for the sustainment of equipment/systems associated with ATC and MET
- ▼ Consists of:
 - Ground Electronics Maintenance (GEM)
 - Navigational Aids (NAVAIDS) Maintenance Services
 - Communications Systems
 - Meteorology Systems
 - Information Systems
 - Sustaining engineering
 - Logistics services

Precision Approach Path Indicators



Bldg 159
Comm/Met, GEMM & Logistics

PWS Technical Requirements

▼ Ground Electronics Maintenance – NAVAIDS

- Install, maintain, and de-install precision and non-precision landing systems each season:
 - Microwave Landing Systems (MLS)
 - Tactical Air Navigation Beacons (TACAN)
 - Precision Approach Path Indicators (PAPI)
 - Runway End Indicator Lights (REILS)
 - Miscellaneous airport support systems [e.g. Airfield Lighting and Control Systems (AFLCS), monitors, etc.]

PWS Technical Requirements

▼ Ground Electronics Maintenance – Communications Systems

- Sets-up and performs preventive maintenance and corrective maintenance of terrestrial and satellite-based communications systems:
 - UHF/VHF single channel radios
 - UHF/VHF transceivers
 - ATC Voice Switch
 - ATC Voice Recorders
 - Satellite phones and modems
 - Wireless data transport



PWS Technical Requirements

▼ Ground Electronics Maintenance – Meteorology Systems

- Sets-up and conducts preventive maintenance and corrective maintenance of fixed and portable aviation weather systems:
 - Automated Meteorological Systems (AMS)
 - Airport systems
 - Fixed systems
 - Special purpose systems
 - McMurdo Area Wind Systems (MAWS)
 - Black Island Wind System (BIWS)
 - Marble Point System
 - Remote Automated Weather Systems (AWS)
 - Portable/Transportable Systems
 - Display and analysis systems/subsystems



PWS Technical Requirements

▼ Information Systems

- McMurdo and Remote Operations facility
- Applications are same at both locations
- Desktops and servers
- Databases
- Displays
- User Interface



PWS Technical Requirements

▼ Sustaining Engineering

- Supports all systems currently employed for Polar Programs
 - Software updates
 - Hardware updates
 - Equipment field changes
 - Drawing updates
 - Evaluates systems' performance
 - Analyzes new capabilities
 - Participates in strategic systems planning

PWS Technical Requirements

▼ Logistics Services

- Responsible for the overall material processes to sustain inventory and requisitions
- Material support
- Deployment support
- Services performed in Charleston and McMurdo

PWS General Requirements

- ▼ Management Support
- ▼ Materials Support
- ▼ Medical and Dental Examinations
- ▼ Deployment Coordination
- ▼ Specific Site Training
- ▼ Other
 - Personal Behavior
 - Lodging
 - Population
 - Transportation
 - Recreation

Travel

▼ Contractor deployment travel

- Through New Zealand
 - 3 days in Christchurch for extreme cold weather (ECW) gear issue
 - 1 Day for return
 - May be excessively more depending on flights to Antarctica
- Flight to McMurdo on government-provided transportation.
 - USAF
 - NYANG
 - International Partners

▼ Other travel required for coordination/planning/training

Materials and ODCs

▼ Other Direct Costs (ODCs)

- Physical Qualification (PQ) Process
 - Medical Examination
 - Dental Examination
- Consumable items
 - Basic supplies
 - Service-related consumables (i.e. Radiosondes & Balloons)
- Incidental repair parts
- Subscriptions and proprietary services to perform mission

Typical Annual Cycle of Events

- ▼ Identify requirements for upcoming season – May-June
- ▼ Complete PQ process – June-August
- ▼ Winter Fly-In (WINFLY) – August
- ▼ Beginning of Mainbody –October
- ▼ FAA Flight Inspection – late October
- ▼ Shift airfields – late November-early December
- ▼ Ship re-supply – January
- ▼ Wheeled airfield re-opens – mid January-early February
- ▼ Redeployment begins – February
- ▼ Winter begins – March
- ▼ Winter operations for emergencies and when scheduled



Questions?



Space and Naval Warfare Systems Center Atlantic

Polar Programs Solicitation Overview RFP N65236-16-R-0006

Charleston Defense Contractors Association
**40th Small Business Industry
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23 June 2016

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Contracting Officer

Polar Programs Solicitation Overview

- ▼ Full and Open Competition
- ▼ Single Award IDIQ
- ▼ CPFF
- ▼ Five (5) year ordering period
- ▼ Anticipated RFP Release - September 2016
- ▼ Target Award Date – 3rd Qtr FY17

Evaluation Factors

▼ Draft Evaluation Criteria

- Technical Approach
 - Management plan, training, quality control, staffing
- Technical Capability
- Past Performance
- Small Business Participation
- Cost/ Price

RFP and Industry Day Questions

- ▼ Government will accept questions on this brief until 7/1/2016 16:00 via e-mail submission to jessica.stogner@navy.mil.
- ▼ All questions and responses will be posted to the e-Commerce website for solicitation N65236-16-R-0006 at: <https://e-commerce.sscno.nmci.navy.mil>



Questions?